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1-1-1986

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Evers, William D. and Mason, April C., "Using and Caring for Your Pressure Canner" (1986). *Historical Documents of the Purdue Cooperative Extension Service*. Paper 926.  
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## Using and Caring for Your Pressure Canner

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### Using Pressure Canners in Home Canning

It takes higher-than-boiling temperatures to kill the dangerous organisms and their spores that cause spoilage in low-acid vegetables, meat, poultry, and fish. The only way to obtain these temperatures is to keep steam confined until it builds up pressure, thus raising the temperature above the boiling point of water, which is 212°F. A pressure canner is designed to do just that. For instance, at 10 pounds of pressure the internal temperature of a pressure canner is 240°F.

The pressure canner often used for home food processing is a 16-quart model. It is deep enough to hold a rack and seven quart jars, with room at the top for the canner lid.

### Timing

Accurate timing is extremely important to the processing of foods in a pressure canner. Timing tables are available from the canner manufacturer or from U.S. Department of Agriculture and Purdue University Cooperative Extension bulletins.

A fully loaded canner takes a long time to heat and cool. This time is taken into account in the processing times given in tables. Do not decrease recommended processing times, because spoilage organisms and heat resistant spores may not be destroyed. To can safely, use directions given specifically for your pressure canner.

### Old Pressure Canners

Before canning with pressure canners that have not been used for several years, it is a good idea to replace vital parts such as the dial pressure gauge, gasket, and safety plug. If the canner is an older model made by a company that is no longer in the business, check with

your County Extension office. They can give names of manufacturers that may be able to supply parts and instruction booklets for these canners.

### Pressure Cookers (Saucepans or Pressure Pans)

A pressure cooker can be used for food processing if it:

- is equipped with an accurate indicator or gauge.
- can control pressure at 10 pounds (240°F).
- is deep enough to hold jars standing on a rack with room at the top for the lid.

This type cooker usually holds three or four pint jars, and it is practical for canning only when processing a small amount of food at a time. The small cooker, with less metal and a smaller load, heats and cools more quickly. While this is a big advantage in regular food preparation, it is not in canning, because shortening the process may prevent destruction of spoilage organisms.

### Recommendations:

Follow the directions for canning which are given in the instruction book that came with your pressure cooker (saucepan, pressure pan). If the instruction book is unavailable for the pressure saucepan, add 20 minutes to the processing times printed in USDA Bulletin HG-8, "Home Canning of Fruits and Vegetables," or another reliable canning booklet. Make sure that the weight on the pressure cooker is made for 10 pounds of pressure. If it is less than 10 pounds, the canning times may not be sufficient to kill all undesirable organisms. Some pressure cooker manufacturers have a special regulator for operating their pressure saucepans at the standard canning pressure and time.

## Essential Parts and Care

### Body of Pressure Canner

Pressure canners are made of materials strong enough to withstand pressure. Cast or heavy-gauge sheet aluminum is most common. In hard water areas, the inside of an aluminum canner will darken, but this does not impair its usefulness.

#### Recommendations:

- 1) Avoid bumping the canner on hard surfaces.
- 2) Wash, rinse and dry the canner thoroughly to remove all foreign matter after each use. This helps prevent pitting or corrosion by minerals in the water or food particles.
- 3) Thoroughly air canner to prevent odors from forming. Always store the canner with crumpled papers inside to prevent accumulation of odors, moisture that could cause rust, and insects or spiders. Do not fasten the cover. Wrap it in paper, and turn it upside down in the canner.
- 4) To remove odors, use 1 tablespoon cream of tartar to 1 quart water. Fill cooker above darkened water line. Bring to 15 pounds pressure, turn off heat, and allow to cool. Wash canner in hot soapy water; rinse and dry.

### Closures

Covers of pressure canners lock in place so that they cannot be lifted by steam. The thumb-screw type covers are found on many older and larger canners. Flexible covers and covers that slide into locked positions are also common.

#### Recommendations:

- 1) Do not put cover in water. Water will damage the dial gauge and may cause vents to clog.
- 2) To clean, wipe cover with a soapy cloth, then a clean damp one, and dry.

### Pressure Gauges

There are four types of pressure gauges available: dial; weight for a single pressure; weight for 5, 10, or 15 pounds pressure; and weight with sliding core.

A gauge, whether a dial or a weight, is essential to control pressure. The dial type is usually attached to the cover of the canner. Either the dial or weight with sliding core indicates the pressure within the canner. Adjust the heat to keep pressure steady.

### Testing Dial Pressure Gauges

If your canner has a dial gauge, whether old or new, have it checked before the canning sea-

son as well as during the season if the canner is used often. It can be checked at some county Extension offices or by a local dealer. If it cannot be done nearby, write to the manufacturer to learn if they can check it. Ask the manufacturer for shipping instructions if the gauge must be sent to them. Directions may specify the return of the whole cover or only the gauge. In either case, pack it like fine crystal and label it "Fragile."

If the gauge is removed from the cover, replace it carefully. Coating the threads with plumber's paste will prevent steam leakage. A paste with an oil or graphite base is a good choice: it will stand up under pressure yet will not harden so much that the gauge cannot be removed again.

#### Recommendations:

- 1) Do not use the gauge as a handle, and never rest the cover on the gauge.
- 2) Do not turn the cover upside down when steaming food. Moisture may collect in the gauge, causing rust and corrosion.
- 3) Make sure the dial pressure gauge is accurate so that the required processing temperature for safe food is obtained. (See suggestions above.)

### Gaskets

Gaskets of rubber or rubber-like compounds keep steam from leaking out around the cover. Leakage makes it difficult to obtain the right pressure and may cause the canner to boil dry. Most gaskets are removable for replacement as needed; some can be turned after a period of use to insure a tighter seal.

#### Recommendations:

- 1) Be sure to wash all grease off the gasket.
- 2) Escape of a little steam around a weight type gauge is normal, but make sure none escapes elsewhere.
- 3) Keep metal to metal seal clean and polished; then rub with petroleum jelly. If the cover sticks, coat gasket with a very thin film of petroleum jelly, mineral oil, or salt-free cooking oil.
- 4) Follow manufacturer's directions for turning and stretching the rubber or composition gasket. Put soap and water on the gasket to make it easier to reinsert. If the gasket tends to stick to the metal, dust it with cornstarch.
- 5) Replace a worn, stretched or hardened gasket with a new one. Replacements may be available at a local hardware store or appliance center, or order them from the canner manufacturer.

## Safety Plugs

The safety plug on canners is an added safety device. Safety plugs will blow only if the pressure of the temperature becomes dangerously high. The metal alloy plug melts when the pressure gets too high or the utensil boils dry. Composition-type plugs are blown out by excessive pressure. Both types are replaceable. Order from the canner manufacturer.

## Vents

Vents allow air to be exhausted from the canner and permit the release of steam as needed.

A petcock, safety valve, or weight on the vent controls the escape of air or steam. The combined petcock and safety valves on canners are usually one of three types: ball-and-socket type, needle type, or a weight which is lifted by excess steam. Weight gauges control pressure and release excess steam.

## Recommendations:

- 1) See that the petcock, vents, and weights are thoroughly clean. Take off removable petcocks and safety-valves, wash and dry thoroughly. Occasionally soak these parts in vinegar, wash and dry. Clean the ball and its socket with silver polish. Put all parts back together carefully and correctly.
- 2) For safe operation of the canner, clean the petcock and safety-valve openings by drawing a string or narrow strip of cloth through them. Do this at the beginning of the canning season, frequently during the season, and before storing.

The life of your pressure canner is determined by the amount of use and type of care you give it. If you question the usability of a canner, return it with a letter of explanation to the manufacturer's service department.

## Tips for Use of Pressure Equipment

Review the directions for using a canner each time it is used. If the directions have been lost, write to the manufacturer for a new set. When writing, give the model number and any available information on the utensil, or, lacking such information, describe it and give the approximate age.

Before the canning season, put water in the canner and bring it up to pressure in the usual

way to see that it is in good working order. Allow time for any repairs that might be needed.

## The Pressure Canner and the Range

A few pressure canners (water-bath canners and large preserving kettles, as well) have bottoms so deeply recessed that the outer edge of the bottom may rest on your range top. This cuts air off from a gas burner and traps the heat from either a gas burner or electric unit. As a result, the enamel surface of the range top may become overheated, resulting in cracking.

To test a large canner, set it on the range. If there is less than  $\frac{3}{8}$  of an inch of clearance between the canner and the range, devise a way to hold the kettle higher. This can be done by placing several small blocks of sheet asbestos (available at hardware stores or lumber yards) around the burner to allow heat and air to circulate. Before buying or borrowing a canner, measure to see what size can be used on your range.

## Related Publications

Contact your county Extension office or write the Publications Mailing Room, 301 S. 2nd Street, Lafayette, IN 47905-1092, for the following related publications.

HE-130	Jams and Jellies Without Sugar
HE-131	Uncooked Jams
HE-132	Safe Home Canning of Low-Acid Vegetables
HE-133	Safe Home Canning of Fruits
HE-134	Freezing Vegetables at Home
HE-135	Freezing Fruits at Home
HE-136	Canning Tomatoes
HG-8	Home Canning of Fruits and Vegetables
HG-10	Home Freezing of Fruits and Vegetables
HG-56	How to Make Jellies, Jams, Preserves at Home
HG-69	Home Care of Purchased Frozen Foods
HG-92	Making Pickles and Relishes at Home
HG-93	Freezing Meat and Fish at Home
HG-106	Home Canning of Meat and Poultry

*This publication was originally prepared by Charlotte Dunn, University of Wisconsin - Extension, with modifications by Sandra Simons, former Extension Specialist, Foods and Nutrition, Cooperative Extension Service, Purdue University.*

Cooperative Extension work in Agriculture and Home Economics, state of Indiana, Purdue University, and U.S. Department of Agriculture cooperating; H. A. Wadsworth, Director, West Lafayette, IN. Issued in furtherance of the acts of May 8 and June 30, 1914. The Cooperative Extension Service of Purdue University is an affirmative action/equal opportunity institution.

REV 1/86 (5M)